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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/686,734	10/10/2000	David Bladsjo	34647-428PT	7122

27045 7590 06/23/2004

ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR C11
PLANO, TX 75024

EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

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DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/686,734

Applicant(s)

BLADSJO ET AL.

Examiner

Derrick W. Ferris

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. **Claims 1-5, 8-26, 28, 30 and 31** are rejected under 35 U.S.C. 102(a) as being anticipated by “Digital Cellular Telecommunications System (Phase 2+); Discontinuous Transmission (DTX) for Adaptive Multi-Rate (AMR) speech traffic channels” to *GSM*.

As to **claim 1**, at issue may be the term “physical layer headers” in the context of additional formatting (i.e., handing additional information such as PACCH or MCS 1-9 through “stealing bits”) which is not recited in the claims in reference to a similar model presented in applicant’s Background, see e.g., pages 6-7 of applicant’s specification. With respect to the limitations, a receiver is presented in figure 3 on page 12 of *GSM*. The receiver receives traffic frames (i.e., physical layer headers or codes) which specifies the state using the RX-type, see e.g., table 2 on page 12. Thus examiner construes a reasonable but broad interpretation of “physical layer headers” in light of applicant’s specification to mean a code associated with a received signal, see applicant’s specification at page 12, line 3, in a GSM/Edge network having *any* format, see applicant’s specification at page 18, middle paragraph. Examples of specific states are disclosed in Section 6.1.2 starting at page 13 which includes a SPEECH state and a COMFORT_NOISE state.

As to **claim 2**, see table 2 at page 12. In particular, AMR ID markers SID_UPDATE and SID_FIRST mark a transition to the COMFORT_NOISE state and AMR ID marker SPEECH_GOOD OR SPEECH_DEGRADED marks a transition back to the SPEECH state, see e.g., Section 6.1.2 starting at page 13.

As to **claim 3**, see similar rejection to claim 3 where a first state is SPEECH a second state is going from SPEECH to COMFORT_NOISE and a third state is going from COMFORT_NOISE to SPEECH. Also note that *GSM* teaches ONSET in reference to preceding a traffic signal in table 2 at page 12 and middle of page 13. Finally, the receiver searches the channel which can be of type speech of FACCH, see Section 6.1 at page 12.

As to **claim 4**, speech is considered high priority and data information is considered low priority. As such, see similar rejection to claim 3.

As to **claim 5**, see similar rejection to claim 4.

As to **claim 8**, the transition to the third state occurs when e.g., a ONSET is present which signifies or indicates that the associated information contains speech, see e.g., table 2 at page 12. In particular, the associated speech frames that follow the traffic frame will contain speech information.

As to **claim 9**, see similar rejection to claim 8.

As to **claim 10**, the transition to the first state or SPEECH state occurs when e.g., a SPEECH good signal is present which signifies or indicates that the associated information contains speech, see e.g., table 2 at page 12. In particular, the associated speech frames that follow the traffic frame will contain speech information.

As to **claim 11**, the transition to the second state occurs when e.g., a SPEECH_BAD or NO_DATA signal is present which signifies or indicates that the associated information contains speech, see e.g., table 2 at page 12. In particular, the associated speech frames that follow the traffic frame will contain speech information.

As to **claim 12**, the transition to the second state occurs when e.g., a SPEECH_BAD or NO_DATA signal is present which signifies or indicates that the associated information contains speech, see e.g., table 2 at page 12. In particular, the associated speech frames that follow the traffic frame will contain speech information. With respect to FACCH see e.g., Section 6.1 at page 12. For example, the channel could be SID information.

As to **claim 13**, at issue may be the definition of a state. *GSM* teaches two possible states: SPEECH and COMFORT_NOISE, however, examiner notes the SPEECH state may also be able to handle “speech silence periods”. As such, *GSM* discloses using a combination of bit-markers, measurements, and CRC values to classify the frame in section 6.1.1. One example where the frame is classified without using markers is if the RATSCCH signal is detected (i.e., the FACCH signal in reference to bottom of page 11). In particular, RATSCCH signals are treated as NO_DATA where frames classified as NO_DATA shall be handled like SPEECH_BAD frames without valid speech information as disclosed in section 6.1.2.

As to **claim 14**, see e.g., Section 6.1.1 at top of page 14 where a frame shall be decoded assuming it is a speech frame.

As to **claim 15**, see e.g., figure 3 at page 12 where an input circuit is shown e.g., as the RX radio subsystem, a decoding circuit is shown e.g., as speech decoder, and a control circuit is shown e.g., as mode detection.

As to **claim 16**, see e.g., section 6.1.2 starting at page 13.

As to **claim 17**, see similar rejection to claim 16.

As to **claim 18**, see similar reasoning in the rejection for claim 1.

As to **claim 19**, see similar reasoning in the rejection for claim 13.

As to **claim 20**, see similar reasoning in the rejection for claim 3.

As to **claim 21**, see similar reasoning in the rejection for claim 8.

As to **claim 22**, see similar reasoning in the rejection for claim 10.

As to **claim 23**, see similar reasoning in the rejection for claim 11.

As to **claim 24**, see similar reasoning in the rejection for claim 12.

As to **claim 25**, see similar reasoning in the rejection for claim 13.

As to **claim 26**, see similar reasoning in the rejection for claim 14.

As to **claim 28**, see similar rejection to claim 17.

As to **claim 30**, see similar rejection to claim 1.

As to **claim 31**, see similar rejection to claim 3.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. **Claims 6-7, 27 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over “Digital Cellular Telecommunications System (Phase 2+); Discontinuous Transmission (DTX) for Adaptive Multi-Rate (AMR) speech traffic channels” to *GSM* in view of WO 00/31996 to *Ericsson*.

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) the difference of differences in the claim(s) over the applied cited references;*
- c) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claim 6**, for step (a) *GSM* discloses limitations in the base claim. *GSM* also discloses priority as mentioned in the rejection for claim 4.

For step (b) *GSM* is silent or deficient to the further limitation wherein the received frames of higher priority information are diagonally interleaved and received frames of lower priority are block interleaved.

Ericsson teaches the further recited limitation above at e.g., the abstract.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *GSM* by clarifying that received frames of higher priority information are diagonally interleaved and received frames of lower priority are block interleaved.

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In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation wherein the received frames of higher priority information are diagonally interleaved and received frames of lower priority are block interleaved. In particular, the motivation for modifying the reference or to combine the reference teachings would be fast in-band signalling of configuration changes. In particular, *Ericsson* cures the above-cited deficiency by providing a motivation found at e.g., the abstract. Second, there would be a reasonable expectation of success since both references disclose DTX using the SID. Thus the references either in singular or in combination teach the above claim limitation(s).

As to **claim 7**, *GSM* discloses various signals in table 2 that are represented by bits. Bits carry a value of either a '0' or a '1'. As there are more than one signal at least one of the signals must carry zeros as bits.

As to **claim 27**, see similar rejection to claim 6.

As to **claim 29**, see similar rejection to claim 6.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- US006477176B1 discloses using a packet header to determine the type of channel as shown in figure 4.
- US006658064B1 discloses using DTX in conjunction with AMR along with interleaving in the background.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225.


The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
Art Unit 2663


DWF


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 6/21/04